

**ABSTRACT**

An ion implantation apparatus comprises an ion source section (18) for generating ions; an ion implantation section (14) for implanting the ions generated in the ion source section (18), in a substrate (92); a charged particle generator (62) for generating charged particles having a charge opposite to that of the ions; a beam guide section (24) having an inlet aperture (24a) for accepting the ions from the ion source section (18), an outlet aperture (24b) for delivering the ions into the ion implantation section (18), a guide tube (24c) extending from the inlet aperture (24a) to the outlet aperture (24b), and an introducing section (80) having an opening (82) thereof in an internal surface (24d) of the guide tube (24c), for introducing the charged particles from the charged particle generator (62) into the guide tube (24c); and a shield section (84) located between the opening (82) of the introducing section (80) and the outlet aperture (24b) inside the guide tube (24c). A shield surface (84a) of the shield section (84) blocks the charged particles' reaching the wafer.